Chemistry of Heterocyclic Compounds 1971 vol.5 N1, pages 62-65

A study of the tautomerism of the N-alkyl-3-methoxycarbonyl-4-piperidinones and their hydrochlorides

Arbuzov B., Erastov O., Remizov A., Nikonova L.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The positions of the equilibria of N-alkyl-3-methoxycarbonyl-4-piperidinones in the liquid state, in water, in alcohols, and in CCl4 have been determined by IR and UV spectroscopy. It has been shown that Meyer's equation is not satisfied for them. This is due to the high steric requirements of the solvating electron pair of the nitrogen atom. On the basis of the fact that on passing from the methyl ester of cyclohexan-1-one-2-carboxylic acid to the N-alkyl-3-methoxycarbonyl-4-piperidones the position of the equilibrium in the liquid state and in CCl4 does not shift in the direction of the enol it is deduced that the spatial requirements of the free electron pair of the nitrogen atom do not appreciably exceed the steric requirements of the hydrogen atom. The IR and UV spectra of the chlorides of the N-alkyl-3-methoxycarbonyl-4-piperidinones in the solid state and in water and in alcohols are given.

http://dx.doi.org/10.1007/BF01031767